

**ABSTRACT OF THE DISCLOSURE**

A collision avoidance system for sensing a presence of objects within a critical distance is provided. The system comprises a collision avoidance array disposed on a face of the system component, the collision avoidance array comprising a plurality of plates configured to detect a presence of objects and generate a corresponding electrical signal. In addition, the system further comprises a multiplexer configured to selectively couple the plurality of plates to a sensing circuit. The sensing circuit configured to sense the electrical signal and generate a corresponding electric field around the collision avoidance array to prevent the object from colliding with the system sub-component.